CLAIMS:

1. Communication server for delivering data streams to a remote destination over a communication network, the server comprising a replacement unit for replacing pieces of data from intended incoming data streams to be received from a remote sender by identical data pieces retrievable from a data storage accessible thereto, according to references supplied by the remote sender; characterized by an identification unit for identifying the pieces of data to be replaced according to a digital signature that is a function of data contained in said pieces, and by an anchor-determination unit for determining locations in the data streams where predefined groups of characters from the stream fulfill a predetermined criterion, the locations of such groups being reference points to the digital signatures.

2. Communication server according to claim 1, further comprising messaging unit for notifying a remote sender to stop delivering intended incoming pieces of data which are retrievable from a data storage accessible thereto.

3. Communication server according to claim 2, wherein the remote sender is a PC delivering data.

4. Communication server according to anyone of claims 1 to 3, wherein the pieces of data are packets of TCP/IP transmission protocol.

5. Communication server according to anyone of claims 1 to 4, further comprising a data storage accessible thereto, wherein the packets are stored in the data storage in blocks of variable size which is determined according to anchor location on the original data stream.

6. Communication server according to anyone of claims 1 to 5, wherein the digital signature is based on any of CRC, SHA1 or DES computed value of a predetermined number of bytes from a selected piece of data.

7. Communication server according to anyone of claims 1 to 6, wherein the digital signature is calculated from a predetermined number of bytes of data, the location of said bytes in the stream of data is in correlation with at least one anchor, and the anchor is a pointer to a location in the stream of data having a compatibility with a predetermined criteria.

8. Communication server according to claim 7, wherein the criteria is a function of data contained in said pieces of data and is independent of a title, address or routing information of said data.

9. Communication server according to claim 8, wherein the function is responsive to a predetermined character combination such that an anchor is assigned upon recognition of said character combination.

10. Communication server according to claim 9, wherein the character combination is a short string of predefined characters.

11. Communication server according to claim 9, wherein a set of anchors is assigned to a piece of data, each anchor from the set is in correlation to an n-tuple location in said piece of data wherein the function is a hash function yielding a predefined value over the n-tuple.

12. Communication server according to claim 11, wherein the hash function is selected from the group containing LFSR, CRC, SHA1, DES, and MD5.

13. Communication server according to anyone of claims 1 to 12, wherein the files are delivered through P2P communication.

14. Method for delivering data streams over communication networks, the method comprising determining reference points in a stream of data being

locations in the stream where predefined number of characters fulfill a predetermined criterion; registering digital signatures being values returned from a predetermined function taken over predefined ranges of content, the ranges are in correlation with the reference points; using the digital signatures to locate locally stored content, and using the reference points or creating a dictionary and using it for synchronizing between currently received pieces of data and between locally stored matching content.

15. A computer readable media containing instructions for controlling a computer system to implement the method of claim 14.

16. System for reducing transportation volumes over communication networks, comprising at least one communication server as defined in anyone of claims 1 to 13.